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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/814,722
Filing Date: March 31, 2004
Appellant(s): NAJEWICZ ET AL.

Scott E. Woloson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 11, 2006 appealing from the Office action mailed April 21, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,287,108	ROTHENBERGER et al.	9-2001
6,178,997	ADAMS et al.	1-2001
5,795,998	SMITH	8-1998
5,024,209	SCHAUPERT	6-1991

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 1-4, 6-9, 11-14, 16-20, and 22-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,287,108 to Rothenberger et al. ("Rothenberger") in view of U.S. Patent No. 6,178,997 to Adams et al. ("Adams").

Rothenberger discloses in the specification and figures 1-6 an invention in the same field of endeavor as applicant's invention and similar to that described in applicant's claims 1-4, 6-9, 11-14, 16-20, and 22-39. In particular, Rothenberger shows a method of enhancing burner performance and a gas range system that includes a pressure regulator in the form of actuating device (8) which is responsive to sensed conditions including pressure fluctuations and functioning to regulate gas flow through a gas feed line (see at least col. 6, lines 55-63 and col. 8,

lines 12-39). The actuating device includes a valve (4), motor (10), and actuator (9) that is also connected to the controller (7), which functions to operate the actuating device (see col. 6, lines 56-63) and control fuel flow to a gas burner (1). The controller (7) would necessarily have appropriate flow control circuitry in order to operate in response to some input by a user of the burner its associated cooking or baking appliance (note abstract) to produce the desired burner output. Rothenberger also discloses a meter/transducer (6) disposed upstream of the burner and adapted to measure a parameter of gas flow at a predetermined location (see at least col. 7, lines 17-35).

In regard to the limitations in the claims of a venturi (e.g. claim 7) and a plurality of burner ports providing secondary air entrainment (e.g. claim 8), applicant notes that such features are not inventive and present in conventional gas operated cooking appliances (see applicant's specification p. 1) of the type shown in Rothenberger. The burner (1) and burner nozzle (2) appears to represent the state conventional burner and appears to show a venture structure above nozzle (2) and a burner that would necessarily have a plurality of burner ports to provide flames for cooking. However, even if not shown, it would be obvious to a person of ordinary skill in the art to incorporate the conventional burner structures identified by applicant to provide a burner assembly for a cooking appliance as is well known in art.

In regard to the limitation of a plurality of burners (e.g. claim 9), it has been held that it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 and MPEP 2144.04(VI)(B). Accordingly, mere duplication of the burner (1) of Rothenberger is not regarded as patentably distinct.

In regard to claims 25 and 26, Rothenberger discloses the use of the recited gas fuel types (see col. 1, lines 15-24).

In regard to claims 27 and 28, Rothenberger clearly discloses that the user defined input for controlling the gas flow may selected as desired (note col. 5, lines 8-27) based on the desired heat output and environmental conditions (see col. 5, lines 45-56). This is regarded as selecting an input based on required burner power and altitude of installation.

Rothenberger does not disclose the use of a gas fuel boost pump or specifically a pump that is variable speed as recited. As noted above, Rothenberger shows an actuating assembly with valve, motor, and actuator.

Adams teaches a fluid flow regulating device that is in the same field of endeavor as applicant's invention and Rothenberger in relating to the regulation of fluid flow to a gas burner (note Adams, col. 1, line 44). In Adams, it is taught that it is well known in the art that a valve in such a control system may be substituted with a variable speed pump located at the end of the control loop (see Adams, col. 1, lines 29-31) and thus would be located downstream of a pressure regulator (at least 12, Figs, 1 and 3, or regulator 23 as shown in Fig. 2A).

Therefore, in regard to claims 1-4, 6-9, 11-14, 16-20, and 22-39, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the valve of Rothenberger to incorporate the pressure regulating assembly including a variable speed pump taught by Adams for the desirable purpose of controlling the amount of fluid distribution via a device well known in the art (Adams, col. 1, lines 30-44).

Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothenberger in view of Adams as applied to claim 1 above and further in view of U.S. Patent No. 5,795,998 to Smith ("Smith").

In regard to claims 5 and 15, Rothenberger does not disclose the use of a variable displacement pump.

Smith teaches a fuel control and metering system that is pertinent to the problem of flow control of both applicant's invention and Rothenberger. Accordingly, Smith is considered analogous art. In Smith, it is understood that a fuel may be pumped via a variable displacement pump (see at least col. 2, lines 9-15).

Therefore, in regard to claims 5 and 15, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute a variable displacement pump as taught in Smith for the valve and actuator assembly of Rothenberger as variable displacement pumps are well known in the art to desirably control a fuel flow in a heating system (see Smith, col. 2, lines 9-15).

Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothenberger in view of Adams as applied to claims 10 and 21 above, and further in view of U.S. Patent No. 5,024,209 to Schaupert ("Schaupert").

Rothenberger in view of Adams teach all the limitations of claims 10 and 21 except for a throttling valve for each burner.

Schaupert teaches a cooking appliance with gas burner in the same field of endeavor as applicant's invention and Rothenberger. In Schaupert, it is understood that each gas burner of a cooking appliance includes a throttling valve (V, Figs. 1 and 2).

Therefore, in regard to claims 10 and 21, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify each burner of Rothenberger to incorporate a throttling valve as taught in Schaupert for the desirable purpose of controlling gas flow to the burner to such an extent that burner components do not exceed their permissible maximum operating temperature (see Schaupert, col. 2, lines 32-39).

(10) Response to Argument

The following comments are considered to fully address appellant's arguments submitted in the Appeal Brief filed September 11, 2006.

Response to Argument A, subsection 1: The combination of Rothenberger and Adams suggests the use of a control system having both a regulator and a gas boost pump

Appellant has argued that neither Rothenberger nor Adams suggest a control device that includes both a gas fuel boost pump and a pressure regulator such that the pump is disposed downstream of the pressure regulator. The examiner does not agree.

In response, the examiner notes that Rothenberger shows a gas range system and method similar to that recited in applicant's claims (see rejections above). The examiner as acknowledged that Rothenberger appears to only recite a single valve element (4) that is operated by means of an actuating device (9) and motor (10) and thus does not show the presence of a

regulator and a gas boost pump. To remedy the deficiency, the examiner has turned to the reference to Adams. Adams teaches the use of regulating device for controlling the flow of fluid in a system, such as a gas burner system (see Adams, col. 1, lines 43-44). Adams initially notes that it is well understood in the art that the final control element of a control system may be a valve, however, a variable speed drive or pump (i.e. a gas boost pump) is a known substitute for a valve (such as the valve of Rothenberger) to desirably control fluid distribution (see Adams, col. 1, lines 27-31).

Adams further describes that pressure regulators are also well known in the art and desirably serve to form a self-contained control system that incorporates all elements of the control system including the controller and valve (or boost pump) in a single unit (see Adams, col. 1, liens 32-34). Adams also notes that such regulators may be in the form of a direct operated regulator or a pilot-operated regulator (see Adams, col. 1, lines 38-40). Adams proceeds to describe the function of both types of regulators as is understood in the prior art (see Adams, col. 1, line 42 through col. 2, line 45). Further, Adams expressly describes that the use of pressure regulators have many advantages over other control devices (such as disclosed in Rothenberger) as such regulators, among other things, are relatively inexpensive, do not require an external power source, and are contained into a small self-contained package (see Adams, col. 2, lines 46-55). Further, Adams expressly provides that it is well understood in the art that in situation where pressure regulators could be used, control valves (such as in Rothenberger) are sometimes undesirably used instead (see Adams, col. 3, lines 48-65).

The examiner's position is that a person of ordinary skill in the art would reasonably understand from the combined teachings of the figures and disclosure of Adams that a pressure

regulator assembly as taught in Adams would be substituted for the control system with valve (4) of Rothenberger to desirably control distribution of fluid in a manner via a device that is relatively inexpensive, does not require an external power source, and is a self-contained package (see Adams, col. 2, lines 46-55).

Further, while the examiner has identified the assembly of Fig. 3 showing a pressure regulator (12), the examiner does note that the type of regulator illustrated in this figure is a directed operated regulator, which seemingly shows only one valving/regulating component. However, as noted above, Adams has clearly identified that regulators may be in the form of either a direct or a pilot-operated type (see Adams, col. 1, lines 38-40). Further, Adams expressly provides that the self/direct regulator illustrated in Fig. 3 would be understood by a person of ordinary skill in the art to be operational in the form of a pilot operated regulator (see Adams, col. 6, lines 32-35). The configuration of a pilot-operated regulator is shown, for instance, in Fig. 2A of Adams. In Fig. 2A, a pilot regulator (23) is provided downstream of valve (12). In light of Adams teaching that a variable speed pump (i.e. a gas boost pump) may be substituted for a valve and is the "final control element" (see Adams, col. 1, lines 27-30), the examiner considers that a person of ordinary skill in the art would reasonably consider that a pilot-operated regulator would include an initial regulator (i.e. 23 of Fig. 2A) in addition to a variable speed pump (substituted for valve 12) such that the pump is therefore downstream of the pilot regulator portion (23 as shown in Fig. 2A).

Response to Argument A, subsection 2

Contrary to appellant's assertion (see Brief, p. 9), the examiner considers that a person of ordinary skill in the art would reasonably regard the teachings of Adams to suggest a pressure regulating control system that includes both a pressure regulating component (e.g. pilot regulator 23) in combination with a gas pump component (i.e. a pump substituted for valve 12) (note discussion above).

Further, appellant has argued that Rothenberger and Adams no do teach increase in pressure of the gas flow downstream of the pressure regulator (see Brief, p. 10). The examiner does not agree.

In response, the examiner considers that while Adams does disclose that pressure regulators are widely used to "...maintain a desired, reduced outlet pressure" as correctly noted by appellant, this disclosure is not regarded as suggesting that pressure regulators cannot be used to maintain an increased outlet pressure if desired. Adams provides that such regulators are used to desirably maintain fluid pressure at a "predetermined level" (see Adams, col. 4, line 59 through col. 5, line 18). Accordingly, as the regulator of Adams is considered to show all the structural elements of applicant's regulating components and suggests that the fluid pressure may be controlled as desired, the examiner considers a person of ordinary skill in the art would regard Adams to suggest increasing the pressure downstream of the pressure regulator as recited.

Response to Argument B

Appellant has not separately argued against the reference to Smith. Appellant has merely asserted that Smith does not obviate the alleged deficiencies of Rothenberger and Adams. For

the reasons noted above, the examiner does not consider the rejections on the basis of Rothenberger and Adams to contain any deficiencies. Accordingly, Smith is considered to properly show that for which it has been cited.

Response to Argument C

Appellant has not separately argued against the reference to Schaupert. Appellant has merely asserted that Schaupert does not obviate the alleged deficiencies of Rothenberger and Adams. For the reasons noted above, the examiner does not consider the rejections on the basis of Rothenberger and Adams to contain any deficiencies. Accordingly, Schaupert is considered to properly show that for which it has been cited.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Josiah Cocks
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Art Unit 3749

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